

Amendments to the Claims:

Please amend claims 1, 4, 6, 7, 8, 12, 13, 16, 17, 19, 20, 21 as indicated below, and please cancel claims 2 and 3 without prejudice. This listing of claims will replace all prior versions and listing of claims in the application:

Listing of Claims:

1. (Currently Amended) A circuit for discharging a high voltage signal to a supply voltage line, the circuit comprising:

a first switch receiving the high voltage signal, the first switch having an output;

a second switch having an input coupled with the output of the first switch, the second switch having an output; [[and]]

a third switch having an input coupled with the output of the second switch, the third switch having an output coupled with the supply voltage line; and

a fourth switch for clamping said high voltage signal to a ground, the fourth switch having an input coupled with the high voltage signal and an output coupled with said ground;

wherein when the first, second, and third switches are on, the high voltage signal discharges to the supply voltage line; and

wherein the fourth switch has a control coupled with the output of the first switch such that when the high voltage signal is discharging and approaches a voltage level of approximately said ground, the fourth switch turns on and clamps the high voltage signal to said ground.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) ~~The circuit of claim 1, further comprising:~~ A circuit for discharging a high voltage signal to a supply voltage line, the circuit comprising:

a first switch receiving the high voltage signal, the first switch having an output;
a second switch having an input coupled with the output of the first switch, the second
switch having an output;

a third switch having an input coupled with the output of the second switch, the third
switch having an output coupled with the supply voltage line;

wherein when the first, second, and third switches are on, the high voltage signal
discharges to the supply voltage line;

a fourth switch for clamping said high voltage signal to a ground, the fourth switch
having an input coupled with the high voltage signal and an output; and

a fifth switch having an input coupled with the output of the fourth switch and an output
coupled with said ground, wherein when the fifth switch is off, the high voltage signal is not
coupled with ground.

5. (Original) The circuit of claim 1, further comprising:
control logic for selectively activating the third switch.

6. (Currently Amended) ~~The circuit of claim 1, further comprising:~~ A circuit for
discharging a high voltage signal to a supply voltage line, the circuit comprising:

a first switch receiving the high voltage signal, the first switch having an output;
a second switch having an input coupled with the output of the first switch, the second
switch having an output;

a third switch having an input coupled with the output of the second switch, the third
switch having an output coupled with the supply voltage line;

wherein when the first, second, and third switches are on, the high voltage signal
discharges to the supply voltage line;

a fourth switch having an input coupled with the output of the second switch, the fourth switch having an output coupled with the supply voltage line; and

control logic for selectively activating either the third switch or the fourth switch to discharge the high voltage signal.

7. (Currently Amended) The circuit of claim 1, wherein the high voltage ~~supply~~ signal is a signal in the range of 0 to -5 volts.

8. (Currently Amended) The circuit of claim 1, wherein the high voltage ~~supply~~ signal is a signal in the range of approximately 0 to -3.3 volts.

9. (Original) The circuit of claim 1, wherein the first switch is a n-channel transistor.

10. (Original) The circuit of claim 1, wherein the second switch is a p-channel transistor.

11. (Original) The circuit of claim 1, wherein the third switch is a p-channel transistor.

12. (Currently Amended) ~~The circuit of claim 2,~~ A circuit for discharging a high voltage signal to a supply voltage line, the circuit comprising:

a first switch receiving the high voltage signal, the first switch having an output;

a second switch having an input coupled with the output of the first switch, the second switch having an output;

a third switch having an input coupled with the output of the second switch, the third switch having an output coupled with the supply voltage line;

wherein when the first, second, and third switches are on, the high voltage signal discharges to the supply voltage line; and

a fourth switch for clamping said high voltage signal to a ground, the fourth switch having an input coupled with the high voltage signal and an output coupled with said ground;
wherein the fourth switch is a n-channel transistor.

13. (Currently Amended) The circuit of claim 1, wherein the high voltage ~~supply~~ signal is a signal in the range of 5 to 10 volts.

14. (Original) The circuit of claim 1, wherein the first switch is a p-channel transistor.

15. (Original) The circuit of claim 1, wherein the second switch is a n-channel transistor.

16. (Currently Amended) ~~The circuit of claim 1,~~ A circuit for discharging a high voltage signal to a supply voltage line, the circuit comprising:
a first switch receiving the high voltage signal, the first switch having an output;
a second switch having an input coupled with the output of the first switch, the second switch having an output; and
a third switch having an input coupled with the output of the second switch, the third switch having an output coupled with the supply voltage line;
wherein when the first, second, and third switches are on, the high voltage signal discharges to the supply voltage line; and
wherein the third switch is a n-channel transistor.

17. (Currently Amended) ~~The circuit of claim 2,~~ A circuit for discharging a high voltage signal to a supply voltage line, the circuit comprising:
a first switch receiving the high voltage signal, the first switch having an output;

a second switch having an input coupled with the output of the first switch, the second switch having an output;

a third switch having an input coupled with the output of the second switch, the third switch having an output coupled with the supply voltage line;

wherein when the first, second, and third switches are on, the high voltage signal discharges to the supply voltage line;

a fourth switch for clamping said high voltage signal to a ground, the fourth switch having an input coupled with the high voltage signal and an output coupled with said ground;
and

wherein the fourth switch is a p-channel transistor.

18. (Original) A method for discharging a high voltage signal, the method comprising:

providing a discharge path from the high voltage signal to a supply line;
discharging the high voltage signal to the supply line through the discharge path; and
providing a clamping device which senses said discharging, said clamping device activating when the high voltage signal approaches a voltage level of approximately said supply line.

19. (Currently Amended) The method of claim [[1]] 18, wherein the clamping device deactivates when the clamping device detects that the high voltage signal is increasing in magnitude.

20. (Currently Amended) The method of claim [[1]] 18, wherein the supply line is a ground connection.

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21. (Currently Amended) The method of claims ~~[[1]]~~ 18, wherein the supply line is a positive supply reference.